

operable to generate and output data conveying the progress of the game for receipt by each of the respective players;

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DT*
an image data generator operable to process the stored game data to generate at least one sequence of images conveying the progress of the game as it is played by the players; and

*C-11
amcl*
a data broadcaster operable to broadcast the image data as a one-way, non-interactive conveyance of the data for receipt by a variable number of observer apparatus.

35. (New) A computer instruction carrier medium, carrying instructions for programming a programmable processing apparatus to become operable to:

process stored game data in accordance with instructions received from a plurality of game players to control objects in the game and to generate and output data conveying the progress of the game for receipt by each of respective players; and

process the stored game data to generate a sequence of images of the progressing game from at least one view, and to broadcast the image data as a one-way, non-interactive conveyance of data for receipt by a variable number of observer apparatus.

REMARKS

Claims 1-14, 16-20, 22-24, 26 and 28-35 are presented for consideration, with Claims 1, 4, 18, 22, 23, 24, 26, 30 and 32-35 being independent.

The specification and abstract have been reviewed and amended to correct minor informalities and improve their idiomatic English form.

Editorial changes have been made to selected claims in order to more clearly recite Applicants' claimed invention. In addition, Claims 30-35 have been added to provide an additional scope of protection.

Claims 1-27 stand rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Applicants' admitted prior art. This rejection is respectfully traversed.

Before discussing the rejection, Applicants wish to point out that Claims 1-29 were pending as of the Preliminary Amendment filed November 8, 1999. Accordingly, it is assumed that Claims 28 and 29 were also intended to be included in the rejection.

Applicants' invention as set forth in Claim 1 relates to a system for playing a computer game comprising a plurality of player apparatus for the input of user instructions and at least one game processing apparatus storing data defining a 3D game environment. The player apparatus and the game processing apparatus are connected and information is transferred to enable each player to view the status of the 3D game environment and control one or more objects therein. In addition, broadcast means broadcasts data defining at least one view of the 3D game environment for receipt by a plurality of observers.

Claim 4 relates to a method of operating a computer graphics system and includes the steps of transferring information between a plurality of player apparatus and a game processing apparatus to enable each player to view the status of a 3D game environment and to control one or more objects therein, and broadcasting data defining at least one view of the 3D game environment for receipt by a plurality of observers to enable the observers to view the game.

Claim 18 relates to a method of operating a computer graphics apparatus in which is stored data defining a 3D game environment, and includes the steps of updating the

stored data in response to received signals defining player control of objects in the game, generating data relating to the game environment and outputting the data to each respective player, and generating broadcast data defining at least one view of the game environment. In addition, the data is broadcast on a broadcast channel for receipt by a plurality of game observer apparatus.

Claims 22 and 23 relate to a storage medium storing instructions and a signal carrying instructions, respectively, for causing a programmable processing apparatus to become operable to update data defining a 3D game environment in accordance with signals defining control of objects in the game by a plurality of players and generating data relating to the game environment and outputting the data to each player. In addition, broadcast data defining at least one view of the game environment is generated and broadcasted for receipt by a plurality of game observer apparatus.

In Claim 24, a method of generating a broadcast signal includes the steps of receiving data defining a sequence of images of a 3D computer game environment in which objects are controlled by a plurality of players, and broadcasting a signal conveying images of the game for receipt by a plurality of game observer apparatus.

Lastly, Claim 26 relates to a method of making a recording of video data, and includes the steps of receiving data defining a sequence of images of a 3D computer game environment in which objects are controlled by a plurality of players, and recording data defining images of the game on a storage device for distribution to a plurality of game observers.

With respect to the applied prior art, the multiple player computer game shown in Figure 1 includes a plurality of player computer terminals 14 connected to the Internet 12 by way of connection 15, and a server 10 connected to the Internet through connection 13. In

addition, an observer terminal 16 is connected to the Internet by connection 18 but takes no active part in playing the game.

As disclosed beginning on page 4, line 1 of the subject specification, the observer terminal 16 sends control commands to the server to define a viewing position. In response to the control commands, the server sends signals back to the observer terminal 16. As will be appreciated, therefore, the observer terminal 16 defines the viewing position.

In contrast to prior art Figure 1, however, Applicants' claimed invention does not provide for an observer to define the viewing position, but rather broadcasts defined viewing data to a plurality of observers. In Claims 1 and 4, for example, at least one view of the 3D game environment is defined and broadcast to a plurality of observers to enable the observers to view the game. In Claim 18 data defining at least one view of the game environment is generated and broadcast on a broadcast channel for receipt by a plurality of game observer apparatus. In Claims 22 and 23 data defining at least one view of the game environment is generated and broadcast for receipt by a plurality of game observer apparatus. In addition, a signal conveying images of the game is broadcast in Claim 24 for receipt by a plurality of game observer apparatus, and in Claim 26 data defining images of the game on a storage device is recorded for distribution to a plurality of game observers.

Thus, reconsideration and withdrawal of the rejection of the claims under 35 U.S.C. §102 is respectfully requested.

Accordingly, it is submitted that Applicants' invention as set forth in independent Claims 1, 4, 18, 22, 23, 24 and 26 is patentable over the cited art. In addition, dependent Claims 2, 3, 5-14, 16, 17, 19 and 20 set forth additional features of Applicants' invention. Independent consideration of the dependent claims is respectfully requested.

New Claims 30-35 are also submitted to be patentable over the cited art. In Claim 30, a plurality of observer apparatus receives image data as a one-way, non-interactive conveyance. In addition, Claims 32-35 recite, among other features, broadcasting image data as a one-way, non-interactive conveyance of data for receipt by a plurality of observer apparatus.

In view of the foregoing, reconsideration and allowance of this application is deemed to be in order and such action is respectfully requested.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE TO SPECIFICATION

The paragraph starting at page 24, line 15 and ending at line 20 has been amended as follows:

It will be appreciated that the array of visual display units 118 may be replaced by a simple visual display [jnit] unit displaying an image comprising a plurality of regions, each region containing an image otherwise displayed on one of the array of visual display units 118 illustrated in Figure 7.

VERSION WITH MARKINGS TO SHOW CHANGES MADE TO THE ABSTRACT

The Abstract section starting at page 40, line 3 and ending at line 15 has been amended as follows:

A computer games apparatus includes a server [(20)] operable under the control of a computer program to generate and store data defining a 3D game environment. Objects within that environment can be moved and/or changed in response to signals received by the server from player terminals [(24)]. Those signals may be transmitted via the Internet [(22)] and/or other networks. The server [(20)] renders the object data into data defining one or more views of the 3D environment, which data can then be processed into a broadcastable form for receipt by a plurality of observers. The performance of the apparatus is unaffected by the number of observers actually in receipt of the broadcast data.

[(Figure 2)]

VERSION WITH MARKINGS TO SHOW CHANGES MADE TO CLAIMS

3. (Amended) A system according to claim1, wherein each player apparatus includes a game processing apparatus, and wherein each player apparatus sends information to the other player apparatus defining changes made to the game environment by the player at [that] the apparatus which sends the information.

4. (Amended) A method of operating a computer graphics system to effect a computer game, which the graphics system comprises a plurality of player apparatus for the input of user instructions and at least one game processing apparatus storing data defining a 3D game environment, the method comprising the steps of:

transferring information between the player apparatus and the game processing apparatus to enable each player to view the status of the 3D game environment and to control one or more objects therein; and

broadcasting data defining at least one view of the 3D game environment for receipt by a plurality of observers to enable the observers to view the game.

5. (Three Times Amended) A method according to claim 4, [in which the] performed in a graphics system [includes] including a single game processing apparatus, [further comprising the steps of] the method including sending object control signals from the player apparatus to the game processing apparatus and sending information defining the status of the game environment from the game processing apparatus to the player apparatus.

6. (Twice Amended) A method according to claim 4, [in which in the] performed in a computer graphics system in which each player apparatus includes a game processing apparatus, [further comprising the step of] the method including exchanging information between the player apparatus defining changes made to the game environment in response to actions of a player at a particular player apparatus.

11. (Amended) A computer graphics apparatus [for use] operable to act as a game processing apparatus in a system according to claim 1, comprising:

storage means for storing data defining a 3D game environment;

game processing means for amending stored data in dependence upon player control of objects in the game environment and for generating and outputting data relating to the game environment for receipt by each player; [and]

means for generating broadcast data defining at least one view of the game environment[, and for outputting the data for broadcast]; and

broadcasting means operable to transmit the broadcast data on a broadcast channel.

12. (Amended) Apparatus according to claim 11, [further comprising means for outputting] wherein the game processing means is operable to generate and output data defining change to the game environment for receipt by each player.

13. (Amended) Apparatus according to claim [12] 11, wherein the game processing means is operable to generate and output data defining a plurality of views of the game environment, the plurality of views comprising a respective view of the game environment for each player.

14. (Twice Amended) Apparatus according to claim 11, wherein the means for generating broadcast data is operable to generate [and output] broadcast data defining a plurality of views of the game environment for broadcast.

15. Cancelled.

16. (Amended) Apparatus according to claim [15] 11, wherein the [broadcast] broadcasting means includes data compression means operable to convert the broadcast data [output for broadcast] into a compressed format.

18. (Amended) A method of operating a computer graphics apparatus in which is stored data defining a 3D game environment, comprising:

updating the stored data in response to received signals defining player control of objects in the game;

generating data relating to the game environment and outputting the data to each respective player;

generating[, and outputting for] broadcast data defining at least one
view of the game environment; and

broadcasting the broadcast data on a broadcast channel for receipt by a
plurality of game observer apparatus.

19. (Amended) A method according to claim 18, [further comprising the
step of outputting] wherein data defining change to the game environment [for receipt by each
player] is generated and output to each respective player.

20. (Amended) A method according to claim 19, wherein data defining a
respective view of the game environment is generated and output [for] to each respective player.

21. Cancelled.

22. (Amended) A storage [device] medium storing instructions for causing
a programmable processing apparatus to become operable to:

update data defining a 3D game environment in accordance with
signals defining [player] control of objects in the game by a plurality of players; [and]

generate data relating to the game environment and output the data to
each player;

generate [and output for] broadcast data defining at least one view of
the game environment[; and]

broadcast the broadcast data for receipt by a plurality of game observer
apparatus.

23. (Amended) A signal [conveying] carrying instructions for causing a
programmable processing apparatus to become operable to:

update data defining a 3D game environment in accordance with
signals defining [player] control of objects in the game by a plurality of players; [and]

generate data relating to the game environment and output the data to
each player;

generate [and output for] broadcast data defining at least one view of
the game environment;and

broadcast the broadcast data for receipt by a plurality of game observer
apparatus.

24. (Amended) A method of generating a broadcast signal, comprising the
steps of:

receiving data defining a sequence of images of a 3D computer game
environment in which objects are controlled by a plurality of players; and

broadcasting a signal conveying images of the game for receipt by a plurality of game observer apparatus.

25. Cancelled.

26. (Amended) A method of making a recording of video data, comprising the steps of:

receiving data defining a sequence of images of a 3D computer game environment in which objects are controlled by a plurality of players; and

recording, either directly or indirectly, data defining images of the game on a storage device for distribution to a plurality of game observers.

27. Cancelled.